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# University of Montana Report of the President 1907-1908

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1907-08

BULLETIN OF THE  
UNIVERSITY OF MONTANA

No. 54  
DECEMBER, 1908

PRESIDENT'S REPORT

# University of Montana



1907-1908

ENTERED AUGUST 24, 1901, AT MISSOULA, MONT., AS SECOND  
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UNIVERSITY OF MONTANA

ANNUAL REPORT

OF THE

PRESIDENT of the UNIVERSITY

TO THE

STATE BOARD OF EDUCATION

1907-1908

PRESS OF  
THE DAILY MISSOULIAN  
MISSOULA, MONTANA







# MONTANA STATE BOARD OF EDUCATION

## EX OFFICIO

GOVERNOR EDWIN L. NORRIS, President.

ALBERT J. GALEN, Attorney General.

W. E. HARMON, Supt. Pub. Instruction, Secretary.

## APPOINTED

G. T. PAUL, Dillon.....	Term Expires February 1, 1909
H. G. PICKETT, Helena.....	" " " 1, 1909
JOHN M. EVANS, Missoula.....	" " " 1, 1910
CHARLES R. LEONARD, Butte.....	" " " 1, 1910
O. W. McCONNELL, Helena.....	" " " 1, 1911
E. O. BUSENBURG, Lewistown.....	" " " 1, 1911
S. D. LARGENT, Great Falls.....	" " " 1, 1911
O. P. CHISHOLM, Bozeman.....	" " " 1, 1912
B. T. HATHAWAY .....	Clerk of the Board

## EXECUTIVE COMMITTEE OF THE STATE UNIVERSITY

J. H. T. RYMAN, President . . . . .	Missoula
T. C. MARSHALL, Secretary . . . . .	Missoula
HIRAM KNOWLES . . . . .	Missoula

## PRESIDENT'S REPORT

MISSOULA, MONTANA, DECEMBER 1, 1908.

TO THE MONTANA STATE BOARD OF EDUCATION:

Gentlemen:—The law of the state provides that the president of the University shall annually “make a report to the State Board of Education, showing in detail the progress and condition of the University during the previous year, the number of professors and students in the several departments and classes, the nature and results of all important experiments and investigations, and such other matters relating to the proper government and educational work of the institution as he shall deem useful.”

Inasmuch as my incumbency of the office began September 1, 1908, I am able to speak from personal experience only of the last three months. For this reason I respectfully refer you for the details of the progress of the University during the past year to the statements from the heads of departments to accompany this report as an appendix. Speaking in general terms I may say that the University has made substantial progress during the year just closed. The almost complete disappearance of the Preparatory Department has somewhat diminished the total registration of students, but the effect upon the spirit of the work and the standard of scholarship is plainly for good. The faculty of the University have felt it possible to undertake classes of more advanced character and to give attention to their own professional advancement now that they are relieved from the duty of teaching high school subjects in addition to their collegiate classes. This very progress, however, has been the cause for revealing the relative weakness of the University in its equipment and faculty for maintaining high collegiate standards of instruction. All too few of the members of the faculty have been able to maintain their ideals as specialists. The general library and special libraries are deficient in most directions for the development of advanced undergraduate work, while wholly inadequate for satisfactory instruction of post-graduates. The laboratories of the scientific and technical



departments have suffered from a policy characterized by my predecessor in these terms: "In the past whatever appropriations have been asked for the State University the demand has been that they should be in the smallest amount possible and still continue the life of the institution." A fair amount of materials and apparatus have been provided for the necessary work in elementary instruction, and it has been possible occasionally to lead exceptional students into more advanced fields. But the reasonable demands of good standards of scientific scholarship require more than yet has been done in the way of equipment of the University laboratories. These things are not said with any lack of appreciation of the conditions which have prevailed in Montana, conditions which have seemed to justify very careful limitation of expenditures for the State University. Indeed, all must recognize that the people of Montana have meant to deal generously with all of the State's higher institutions of education. But the characterization is nevertheless based upon a just estimate of the actual conditions and needs of the University. The time has come when the thinking people of the state appreciate the fact that the State University must be raised to the best standards and must be adequately supported in this position. Under such a policy and with such a reputation young men and young women may be expected to seek to enjoy its opportunities in ever-increasing numbers. In other portions of this report I shall make specific recommendations in accordance with these principles.

## RELATIONS OF THE STATE'S HIGHER INSTITUTIONS.

Nothing is more striking in the present condition of higher education in Montana than the division of educational resources among four widely separated and almost independent institutions. In the words of a distinguished editor: "When Montana achieved statehood and took up the important subject of schools for higher education most of the intelligent citizens of Montana whose judgment was not under bias of local or personal considerations \* \* \* well knew that the centralization of the system, including all or nearly all of the colleges or special schools, was beyond all doubt the right plan. \* \* \* [Separation] was a deplorable mistake, it was a wrong policy, directly entered into by men, a good many of whom knew perfectly well that it was wrong." This established system, admittedly wrong in principle, ought not to be allowed to continue if

there is any reasonable way in which it can be reformed. The acquired habits of the people, the vested interests which have grown up, deserve consideration, but ultimate results should be sought for the good of the whole state. Actual consolidation of all of the State's higher institutions of education may not be feasible either for political reasons or because of financial limitations. If this is the judgment of the State Board and the Legislature, then at least partial relief from the burdens of duplication and the weakness of division may be secured by bringing about administrative unity. I must necessarily discuss this subject primarily as an educator attempting to give advice upon the best measures which experience may recommend, and therefore do not undertake to anticipate the practical solution of a complicated political question by the Legislature. If the principle of administrative unity is accepted by this Board and by the Legislature it will not be very difficult to outline the necessary measures for organizing the State University of Montana under a special board of regents exercising authority over all of the several departments of the University, each of which may continue its proper work in the locality where it now exists. Such a board of regents, superseding the present local boards, but concerning itself exclusively with the problems of the University, should maintain effective co-ordination and unity among its constituent departments and faculties. Without the multiplicity of duties relating to all features of a great educational system which burden this State Board of Education the suggested board of regents of the University ought to be an effective agency for the administration of its particular trust on behalf of the whole people.

Perhaps it will not be amiss to call to the attention of this Board the fact that the acts establishing the School of Mines, the Agricultural College and the Normal College all contain this clause: "Such Agricultural College (School of Mines, Normal) may be connected with the State University under such regulations as the State Board of Education may prescribe."

What is suggested is a return to this fundamental principle as a measure of practical wisdom.

#### RESOURCES AND ENDOWMENT.

The United States Government granted to the State of Montana for University purposes, 46,080 acres of land, which have been selected and the selections have been approved. Money



received from the sale of such lands and from the sale of timber is deposited in a permanent University fund, which is irreducible, but the income of which may be expended for maintenance of the University. About one-fourth of this federal land has been sold and the proceeds are invested in bonds deposited with the State Treasurer. It would be a wise policy to conserve the remainder of the land grant, withholding from sale all coal-bearing and timber lands and disposing of coal and mineral rights under royalty systems. The conspicuous success of a similar policy adopted for the University of Minnesota in regard to its lands will recommend such a policy in Montana.

The University income fund, consisting of moneys received from the interest on the permanent fund and from rent and leases on agricultural and grazing land, should now be made directly available for the current maintenance of the University. The assumption by the State of bonds originally issued for the construction of buildings makes this possible.

On November 30, there was remaining in the two funds just discussed the following amounts:

Permanent University Fund (bonds) .....	\$179,000.00
Permanent University Fund (cash) .....	4,693.95
University Maintenance Income Fund (cash) .....	1,983.15

NOTE.—The University Maintenance Income Fund has recently been diminished to the amount of \$50,000, used for the payment of illegal building bonds. This sum should promptly be restored to the Income Fund, to be made available under the law for maintenance of the University in accordance with the terms of the Federal land grant. Recent favorable action by vote of the people on the issue of \$500,000 bonds for such purposes makes this restoration proper and feasible.

The original act for the establishment of the University recognized the possibility of contributions derived from public or private bounty for support and endowment of the University. The amount of private benefactions has been small, although a number of individuals have contributed various sums that served useful purposes. The time has come, or ought soon to come, when people of wealth will recognize that the University of Montana can effectually administer large funds for the advanced education of the young men and women of the state. When the general body of taxpayers have contributed all that can reasonably be expected of them such an institution will still

find innumerable needs unsatisfied, and it is therefore a worthy object for financial support by private citizens. A noteworthy effort to draw public attention to this subject has recently been made by Frank S. Lusk and John R. Toole, both of Missoula. Their offers to contribute \$10,000 and \$1,000 respectively toward an adequate endowment of the University should challenge the attention of those whose wealth would enable them to serve the people in this way.

Probably the main reliance of the University, with all the help that it may receive from benefactors, must for many years be upon grants from the state. If the University is to be in the future as in the past, merely one of several competing institutions of higher education, the increase of appropriations from the general fund may be expected to be modest in amount. Under these circumstances the determination of the appropriations can not rest primarily upon the wisdom of plans for the expansion of the University's work, but upon some rule of proportion in dividing the State's educational resources among the several institutions. Clearly, however, and especially to one who has examined in detail the condition of the various departments of the University, the need is pressing for a substantial increase over previous appropriations. Detailed recommendations will be found in a later section of this report, following the discussions of the several phases of the University's development.

An amendment to the State Constitution would be requisite to secure a permanent income to the University derived from a so-called mill tax. Such an amendment, however, is strongly recommended by considerations of public policy lest the prosperity of the University be subjected to the vicissitudes of party struggles.

## GROUNDS AND BUILDINGS.

In its material aspects the University has gained something during the past year. The new Library building has been practically completed and needs only to be fitted up with furniture to become of substantial use. The additions to the heating plant provide for the increased needs due to the building expansion. The construction of cement walks has provided additional permanent footways in several directions to take the place of worn-out wooden walks. All these matters presumably will be fully reported upon by the building commission which has had charge



of the expenditure of the special appropriation made by the last Legislature.

It is true that not all of the 40 acres embraced in the University Campus is yet utilized for building and other purposes, but it does not take much foresight to see that the grounds of the University ought to be considerably enlarged in order to provide for future growth. On both sides and in front of the University is ample ground not yet occupied by dwellings or other buildings, and from which additions ought to be made to the University's holdings while the property may be had at prices which are not prohibitive.

In most particulars the buildings of the University are in a good state of repair. In University Hall some considerable alterations and repairs of the interior will be needed in order to make proper provision for the enlargement of facilities for certain departments, the completion of the Library building presenting the opportunity for this particular development. In Science Hall, likewise, a good deal of rearrangement will be necessary in order to provide properly for the School of Engineering and the Department of Chemistry. Practically all of the plumbing in the Chemistry Department is so far deteriorated after years of use that it will have to be replaced during the ensuing summer. The University Gymnasium has never had a ceiling. This should be supplied and thus make it possible to heat the building comfortably without excessive cost. In addition, the dressing rooms, both for men and women, need to be supplied with modern steel lockers and with shower baths. Likewise, the facilities for gymnasium classes and athletic teams ought to be improved by additional dressing rooms and baths for men. The Woman's Hall requires more or less repairs annually, but these may be cared for out of the Woman's Hall fund without being a charge on the general maintenance fund.

#### NEW BUILDINGS NEEDED.

Just as soon as the means can be provided, either by the state or by private benefactors, a dormitory for young men ought to be erected. Such a building would afford quarters for a large proportion of the young men who do not live at home or with friends in Missoula. It would materially reduce the cost of living for men students just as Woman's Hall serves the same purpose for young women. At present the price of comfortable rooms and good board in Missoula is higher than it



ought to be for young men of moderate means who desire to attend the University. The very prosperity of the community, the constant growing demand for houses, operates against the interests of students from a distance. The planning of such a dormitory, to meet the demands of students and at the same time to minimize the problems of discipline and administration, requires the adoption of the so-called cottage system. This system is capable of indefinite expansion while maintaining the principle that students should live in relatively small groups.

One department of the University which is most in need of increased space and improved facilities is the School of Engineering. These needs might be met, either by the construction of a new natural science building for such departments as Chemistry, Biology, Physics and Geology, leaving the present Science Hall to be occupied solely by the School of Engineering, or by the erection of an engineering hall, leaving the present Science Hall to be adapted for use as a natural science building.

The project of providing a president's house has previously been before your Board and the probability of its erection in 1909 was discussed by the University committee during the past summer. Without going into the question of policy involved I may suggest that a suitable location could easily be provided either on the southwest corner of the present campus or on lots to be secured just north or west of the campus.

The action of the Congress of the United States in supporting weather service in connection with the University makes likely the erection of a new building in Missoula to be utilized for a local weather observer. Such a building may be advantageously located in immediate proximity to the Science buildings of the University, leading naturally to co-operation between the faculty of the University and the officials of the weather bureau.

#### CHANGES IN THE FACULTY.

New appointments in the faculty have been as follows:

The vacancy in the Department of Physical Training has been filled by the appointment of James W. Rhodes of the University of California. Mr. Rhodes has had several years of practical and successful experience in gymnasium work and in a lesser degree in the training of athletic teams which enter into competitive sports. A leading feature of the administration of his department is the emphasis placed upon physical training

for both men and women. Under his policy the development of successful athletic teams is not neglected, but will remain a secondary consideration.

In the School of Engineering Allston Dana, a graduate of the Massachusetts Institute of Technology, has been appointed assistant. Mr. Dana brings to his position a training characteristic of successful graduates of his alma mater. His appointment has resulted in strengthening the work in civil engineering.

In the Department of Chemistry Walter Arthur, a graduate of the University of Missouri, with the additional advantage of graduate study in the University of Michigan, has been appointed assistant. As a result the work of the department has been strengthened in various particulars.

It was deemed best not to fill, for the present, the vacancy in elocution and physical training for women. Part of the work has been carried on in a public speaking class by Miss Stewart, dean of women.

Very recently there has been appointed as assistant in English and physical training, Miss Maud McCormick, a graduate of the University of Missouri.

A number of minor appointments in the nature of student assistantships have been made which are a matter of record in the proceedings of the Board and need not be recapitulated here. The work of these more mature students in laboratory supervision is useful to the several departments and also gives a desirable training to those fortunate enough to receive such appointments.

## NEW DEPARTMENTS.

For the maintenance of good standards of collegiate instruction several departments of the University need strengthening. First among these is the strengthening of the Department of Biology, either by the appointment of a new instructor to carry on work in botany and forestry or by the division of the present department and the establishment of a new department of forestry and botany. Not only is this change desirable to relieve the professor of biology from the necessity of covering a field which is altogether too wide for a single collegiate instructor, but it is of great importance in order to bring about proper attention to the subject of forestry. Opportunities of the most unusual sort are now presented for the establishment of training in forestry in the University of Montana. Missoula is the head-



quarters of District No. 1 of the Forest Service, with a large office staff of trained men, and with a large force in charge of field work, administering nearly 20,000,000 acres of forests. The head of the Forest Service of the United States, Gifford Pinchot, and the district forester in charge at Missoula, W. B. Greeley, are willing to co-operate in every possible way for the advancement of forestry in the University. Mr. Greeley has already agreed to give a course of lectures in the University during the second semester of this year. Mr. Pinchot has authorized Mr. Greeley to make any feasible arrangements for assisting in the actual work of instruction in forestry. The possibilities of co-operation in summer work also are being discussed with favorable prospects of working out a satisfactory adjustment. Perhaps it may not be apparent to those who have not investigated the subject that from two-thirds to three-fourths of the instruction necessary for the training of foresters is already provided in existing scientific and engineering departments of the University. With some adaptation of these resources and with the service of an instructor in forestry, assisted by the district forestry staff, a well-equipped department of forestry may be established at a minimum cost.

At present there is in the University a single combined Department of Physics and Geology. Before long these subjects ought to be administered in separate departments. For the present it may be satisfactory to appoint an instructor in physics in the department, who will give all his time to his special work. Physics is so important a subject for the foundation work of the other sciences that this development should be made as soon as possible.

Although it has been feasible to omit most of the work in elocution for the present year this condition ought not to continue. The appointment of an instructor in elocution for the next academic year will be recommended to your Board in its regular June meeting.

Among the departments, as yet not organized in the University, is law. Provision for professional training in this subject ought to be made during the ensuing academic year. The number of young men within the state who desire to become lawyers, and who may be expected to become legislators and public officials, but who have no opportunity within a thousand miles for special training in this field, indicates that the state ought not to permit the neglect of this department to continue.



By the appointment of one professor of law for the year 1909-1910, the work of this important department may be initiated by the giving of the first year courses. Valuable assistance also may be obtained from jurists of the state who stand ready to co-operate for this purpose. If a second professorship of law is provided for 1910-1911, the work of the department will then be upon a basis which will place its instruction upon a standard commending itself to the judgment of students of the subject. Estimates of the necessary cost of initiating this work show that a total expenditure of about \$4,000 the first year, with accretions of \$2,000 for two successive years thereafter, will establish a department of law with a high standard. There are many detailed questions (such as requirements for admission, length of courses and granting of degrees) which will have to be dealt with, but which are more properly left to the action of the faculty of the University after the proposition to establish the department is approved by the Board.

Additional instructors could be utilized with great advantage in other departments, particularly in engineering and history, but the above recommendations as to forestry, physics, elocution and law seem to require first consideration.

### STANDARD OF SALARIES.

A subject of fully as much importance as division of departments or the addition of new members of the faculty is the standard of salaries. At present the highest salary paid to a member of the teaching staff is \$2,100. It must become obvious to anyone who considers the cost of living in Montana and salaries paid in other collegiate institutions to men whose scholarship and usefulness is noteworthy, that the maximum salary to be paid to full professors at the University of Montana ought to be raised from \$2,100 to \$2,500 immediately. At the same time a policy may well be adopted of increasing the standard every two years until it reaches \$3,000. This statement is not meant to imply that every full professor should at once receive the maximum salary. The decision in each case should depend upon the value of the service rendered to the University. The president must be charged with the responsibility of recommending the adjustment of salaries under the general schedule adopted by the Board.

## ACADEMIC RANKING.

A standing regulation of the Board provides that the faculty of the University shall be of three grades, professor, instructor and assistant. The mere matter of titular designation is not of very great importance, but a useful purpose may often be served by the employment of one additional title, that of assistant professor. A member of the faculty may not have served with enough distinction to deserve the rank of professor, but may be decidedly above the quality usually indicated by the title of instructor in most universities. His position becomes more agreeable in the academic world if he is given a title commonly understood to be of higher grade than that of instructor. Therefore I recommend this change in regulations.

## TENURE OF OFFICE.

Under the system at present in vogue the faculty of the University is elected annually. A member of the faculty has no assurance from year to year that his appointment will be renewed no matter how long and faithful his service has been. Comparative permanence of tenure ought to be one of the attractions for his position to compensate a University professor for the modest scale of his income as compared with the rewards of professional men of similar education who are engaged in commercial or semi-commercial life. I recommend, therefore, that the Board adopt the policy of probationary appointments from one to three years for all members of the faculty. After such probations have been served and a member of the faculty is to be retained his position should be secure unless affirmative action is taken to require his resignation or to remove him from his office. The reserved right of the Board to dismiss any member of the staff for good reason would be unimpaired, but there is a great difference between the position of an employee who is told that he will be retained until notified of his discharge and one who finds that his official life will terminate automatically unless definitely renewed.

## THE CARNEGIE FOUNDATION.

The subjects of standard of salaries and tenure of office just discussed have an intimate relation to the topic next to be brought to your consideration. The trustees of the Carnegie



Foundation make certain conditions for the admission of state institutions to the benefits of the trust fund which they administer. In the first place, they stipulate that an institution should require a full four years' high school course for admission to its collegiate departments. In the second place, tax-supported institutions must have an income for current maintenance of not less than \$100,000 per year. In the third place, such tax-supported institutions will be admitted to the foundation only upon application of the Governing Board and the approval of the State Legislature. This Board has already given its sanction to the application of the University of Montana to be admitted to the benefits of the fund. A joint resolution expressive of the approval of the Legislature for your action should be recommended and passed at the coming session of the Legislature. Since the University now requires the full four years' high school course for admission the only remaining condition to meet before the University would be admitted in full standing to the benefits of the foundation is that it should enjoy an income of \$100,000 a year for maintenance. For the past two years the University has been in receipt of about \$60,000 per year for maintenance. If the increased income necessary to give the faculty the benefits of the retiring allowance system of the foundation can be obtained it will confer double benefits. Not merely will the people of the state profit by the betterment of the University through the increase in its resources, but the faculty will find the value of their positions substantially increased, and it will be possible to secure and to retain the best type of University professors in competition with similar institutions. Furthermore, the retirement of superannuated or disabled professors under humane conditions will tend to renew the youth and efficiency of the teaching staff.

#### SABBATICAL LEAVE OF ABSENCE.

Another measure of great importance to maintain freshness and vigor of academic instruction and to encourage scholarly research is the institution of the sabbatical leave system. Several years of continuous application and effort in the arduous duties of a teacher often leads to loss of enthusiasm and spontaneity. A comparative lack of leisure for research and intellectual growth among the members of a teaching faculty may introduce a kind of professional stagnation. Wise recognition of the needs of the profession has led a large number of institu-



tions to grant sabbatical leaves of absence to their faculties. The most common and reasonable form of this system is to excuse all professors (and sometimes assistant professors) one year in seven from obligation to teach while continuing to pay them one-half of their usual salaries during the vacation year. It is always possible to secure a temporary substitute for one year to give a limited and necessary amount of instruction in lieu of the work of a professor. Therefore the system can be administered without causing additional expense for salaries. While there may be some loss of efficiency in the work of a substitute as compared with a professor this is more than made good by the renewed vigor and power of the permanent member of the faculty on returning to his work. I recommend that the University of Montana should inaugurate a sabbatical leave system with respect to full professors, beginning the next academic year.

#### REVISION OF COURSE OF STUDY.

The prevailing principle in the organization of the instruction given by the faculty is that of the so-called group system. Students entering the University are obliged to make choice of the group in which they may desire to carry on their studies. Having made this choice they find that all but a small proportion of their work, ranging from about 10 per cent to about 25 per cent, is definitely prescribed. In the School of Engineering the course permits even less choice than this. This whole subject has been before the faculty and is now under consideration by a special committee who have not finished their deliberations. The matter is brought to your attention here, not because any action by the Board is desirable, but in order that the probability of impending changes may be made clear. It seems likely that the faculty will agree, at least in everything except strictly professional courses, to a very considerable modification of prescriptions and a corresponding expansion of the principle of elective courses. Such a change, it appears to me, will be in the direction of sound pedagogical principles as applied to collegiate instruction. The so-called free elective system has always been subjected to many administrative limitations. The University of Montana will surely have regard to the lessons of experience and may be expected to permit only such degrees of election of courses as may promise the best results.

## SUMMER SCHOOL.

In the State of Montana there are no collegiate summer schools to which teachers and others might resort for instruction and work. The conspicuous success of schools of this character in many institutions such as Wisconsin, Chicago and California, not to mention others, suggests the thought that provision for similar courses in the University of Montana would meet a public need. If a summer school is to be established it ought to be of high grade, not furnishing a means for deficient students to make up work in which they have failed during the regular academic year, but providing opportunity for genuine study and inspiration for mature teachers and others who may wish to improve their educational equipment. The employment of three or four distinguished educators from outside the state and the utilization of several members of the regular staff would provide an attractive scheme of courses. The expense attached to this plan need not be burdensome, amounting, perhaps, to 8 per cent of the usual annual maintenance. Like the proposition to establish forestry and law departments, this matter of a summer school should be decided with reference to the income which may be available for all the purposes of the University.

## BIOLOGICAL STATION.

For the last nine years the University has conducted a Biological Station at Bigfork, on Flathead Lake. This station has been primarily a place for investigation and research, and as such has proven its usefulness by the valuable results which have been worked out. The location of the federal donation of 160 acres of land from the Flathead Reservation, has been finally completed and the patents have been recorded. The possession of this land in three admirably located sites, offers an opportunity for further development of the work of the station. The University is merely a tenant by courtesy of the quarters at Bigfork. Steps ought to be taken to make this occupation permanent and also to develop facilities on the present holdings. The detailed report and recommendations of the director indicate the kind of improvement which ought to be made. In this connection mention ought to be made of the fact that the University's lands on Flathead Lake may be utilized by the forestry service and by the biological departments and surveying classes



of all of the State's higher institutions. Here is an excellent opportunity for illustrating the benefits of co-operation.

During the past year W. A. Clark made his customary contribution of \$250 to sustain the work of the Biological Station. The thanks of the state are due to Mr. Clark for this evidence of his interest in the University's scientific work.

## PUBLICATIONS.

In carrying out the policy of encouraging scholarly research by the faculty and in making the results of this work accessible to the public, the University maintains several series of bulletins. The expenditure of money for these purposes is of the very highest value, although the results frequently cannot be definitely measured. As far as resources will permit, such publications should be continued in the future. During the past year the following bulletins have been issued:

Bulletin No. 47—Announcement, second semester, 1907-8.

Bulletin No. 48—President's report, December, 1907.

Bulletin No. 49—Announcement, Fifth Annual Interscholastic Meet.

Bulletin No. 50—Geological series No. 3, Some Economic Geology of Montana, Professor J. P. Rowe.

Bulletin No. 51—Thirteenth annual register.

Bulletin No. 52—Announcement, Montana High School Debating League, Professor J. S. Snoddy.

## STATE GEOLOGICAL SURVEY.

Proposals for a State Geological Survey have been before the Board and the Legislature in previous years. Whether the time has yet come for the establishment of such a survey is a question that may be open to doubt. But in the opinion of men best qualified to form a judgment, and in the light of the experience of many other states, the establishment of the proposed survey ought to be deferred only upon grounds of economy in public expenditures. Meanwhile the professor of Geology in the University has been devoting his summers to carrying on a systematic survey of the economic geology of the state. Some of his results have been published in various places, including a recent University bulletin.

In this connection mention should be made of the fact that W. A. Clark has contributed \$200 a year for three years to aid the professor of geology in his expeditions over the state.



## CERTIFICATION OF TEACHERS.

Under the law as it exists at present graduates of the University of Montana, no matter how well equipped, are not admitted to teach in the schools of the state without undergoing examinations such as must be taken by persons in whose behalf no evidence of training or capacity may be presented. A bill to remedy this unfortunate condition failed of adoption in the last Legislature. I desire to urge that graduates of the University of Montana who may be granted "The University Certificate of Qualification to Teach" (under regulations to be approved by this Board) should be granted the right to teach in the schools of the state without examination. Four years of collegiate training, if it includes a reasonable amount of attention to pedagogical methods, is at least as good preparation for the profession of teaching as can be obtained in a normal school.

## HIGH SCHOOLS AND UNIVERSITY.

Hereafter the University is not to receive as students persons who have not had four years of high school preparation. This fact makes the connection between the University and the high schools of greater importance than ever. The laws of the state and the regulations of the Board provide a system of accrediting based upon a prescribed course of study and a system of inspection carried out by the president of the University and the superintendent of public instruction. The result of many inquiries and of considerable personal experience reveal the fact that the administration of this system of accrediting needs thorough revision. In past years when struggling high schools were being maintained in ambitious communities not yet ready to maintain well-equipped schools of this grade, a policy of comparative leniency in judging standards may have been wise. At the present time, however, plans should be perfected for frequent and more systematic inspection of the actual work of high schools with an insistence upon proper library and laboratory equipment and upon intelligent and effective teaching. I consider it a part of my duty for the present year to visit every high school of the state, and a good beginning to this end has already been made. As a result of longer experience I may hope to submit more detailed recommendations at your regular meeting next June.

An interesting point of contact between the life of the University and the life of the high schools springs from the well established and popular Interscholastic Meet and High School Debating League. Under the auspices of the University these affairs offer to high schools of the state admirable opportunities to extend their range of interests and to become acquainted with fellow students from all parts of the state. A practical feature worthy to be noticed is that the University funds are subjected to only a very slight administrative charge in connection with these affairs.

### STUDENT AFFAIRS.

Relations of the faculty and the members of the student body of the University are in a healthy condition. We have adopted a policy of abolishing all prescribed rules relating to conduct. This course makes an appeal to the manhood and womanhood of the students which promises excellent results.

The several organizations of the students, the inclusive Associated Students of the University of Montana, the athletic and literary societies, the social groups known as fraternities and sororities, and others too numerous to mention, seem to be running smoothly and ministering effectively to the needs of their several constituencies.

The interest of the student body in intercollegiate competitive contests mainly relates to athletic teams. The zest with which the young men and young women participate in these sports and support them requires some wise guidance from the faculty in order that excesses may not be committed. For this reason the faculty has adopted rules of eligibility and is endeavoring to interpret these, not merely according to their letter, but in their real spirit. To this end the employment of professional coaches has been prohibited, and during the football season just closed the University team has been fortunate in enjoying the gratuitous services of an amateur coach, Mr. R. White, a graduate of the University of Iowa. Likewise no student is permitted to be a member of an athletic team who is a "migratory athlete" or who fails to make his academic work his main interest. The state has the right to expect that the higher institutions of education shall establish and maintain the best standards in sports, setting an example to all secondary schools.



## RHODES SCHOLARSHIP.

By action of the trustees of the will of Cecil Rhodes the next qualifying examinations for Rhodes scholars in the United States have been postponed to October, 1909. The president of the University continues to hold the chairmanship of the committee of selection for Montana. Due notice will be given through the newspapers of arrangements for these examinations, and it is hoped that Montana may continue to be well represented in this assemblage of able young men from all over the world.

## NATIONAL ASSOCIATION OF UNIVERSITIES.

The annual meeting of the National Association of State Universities was held in Washington on November 16 and 17. I attended the sessions, remaining also for the meetings during the ensuing two days of the Association of Agricultural Colleges. A number of topics of considerable importance were discussed, only one of which need be brought to the attention of this Board, because of its possible influence on the future of the University. Quoting from the report of the committee on standards of American universities, the following formulation of principles was adopted by the Association:

"We may define the standard American university to be an institution—

"First. Which requires for admission the completion of the curriculum of a standard American high school with a four years' course, or if you prefer the statement, the completion of a course which will enable the pupils to offer for admission 15 units of four periods, or 14 units of five periods each.

"Second. Which offers two years of general or liberal work completing or supplementing the work of the high school.

"Third. Which offers a further course of two years so arranged that the student may begin work of university character leading to the bachelor's degree at the end, and reaching forward to the continuation of this work in the graduate school or the professional school.

"Fourth. Which offers professional courses in law, or medicine, or engineering, based upon the completion of two years of college work.

"Fifth. Which offers in the graduate school an adequate course leading to the degree of Doctor of Philosophy."

Investigation will show that very few, even of the most highly developed state universities of the United States, conform at the present time to these principles. In other words, there are few "standard American universities." The significant fact is that the endorsement of such principles will tend to bring a great many of these institutions into conformance with these standards. The first problem of any state university is to serve its community effectually. Meeting this fundamental test it may then prove to be desirable to organize and develop the University of Montana along the general lines indicated by the action of the Association.

#### CHARTER DAY.

February 17, the day on which the bill for the organization of the University was signed by the Governor, is recognized annually as Founders' Day or Charter Day. The actual celebration of the anniversary is put upon the nearest convenient date. On February 14, 1908, the chief feature of the exercises was an address by President McLean of the University of Idaho. I have the pleasure of announcing that the address for the next Charter Day exercises, on Feb. 19, 1909, will be delivered by Judge William H. Hunt. It is to be hoped that the members of this Board and a large number of the Legislature, may be able to attend these exercises and acquire an intimate knowledge of the University from personal observation.

#### APPROVAL OF TEXT BOOKS.

While the University was conducting a preparatory department this Board made a regulation requiring the approval and publication by the president of lists of text books to be used in the various classes. As applied to collegiate courses the regulation can hardly be said to serve a useful purpose, but entails a multiplication of reports somewhat burdensome in character. In recent years the regulation has been virtually obsolete in practice, and I recommend its repeal. Such degree of supervision as is desirable may still be exercised at the discretion of the president.

#### INVENTORIES.

During October the fact became known to me that the regulation of the Board requiring the taking of inventories in all



departments of the University in the spring of each year had not been followed last May. By my direction these inventories were made and filed in the president's office last month. Investigation shows that a more convenient season than May ought to be chosen for the taking of inventories, because at that time the faculty has the hardest tasks of the year in bringing the work of instruction to a satisfactory close. I recommend that inventories be required in October of each year—thus being preliminary to the submission of the president's annual report.

### SUMMARY OF ENROLLMENT.

The enrollment for the academic year 1907-1908 is stated in the last register as follows:

Post-graduate students .....	7
College .....	183
Specials .....	6
Third preparatory .....	22
Second preparatory .....	23
First preparatory .....	17
Irregular preparatory .....	6
Biological Station .....	8
School of Music .....	33
<hr/>	
Total.....	305
Counted twice .....	14
<hr/>	
New total .....	291

The enrollment for the first semester of the academic year 1908-1909 is as follows:

Post-graduate .....	1
College .....	148
Irregular .....	20
Third preparatory .....	8
<hr/>	
Total .....	177

NOTE.—The above figures of enrollment for the present semester are exclusive of some 30 persons who are (1) special post-graduate students not carrying full work, or (2) students who did work in the summer Biological Station, or (3) special pupils of the instructor in the Department of Music.

## FINANCIAL STATEMENT OF MAINTENANCE FUNDS

(No income was made available from landed endowment during 1907-09)

### MAINTENANCE RESOURCES OF THE UNIVERSITY FOR TWO YEARS AND THREE MONTHS, DECEMBER 1, 1906, TO MARCH 1, 1909

(As shown by State Auditor's books)

Special Three Months Appropriation, to March 1, 1907.....	\$ 11,750.00
One Year Appropriation, to March 1, 1908.....	57,555.00
One Year Appropriation, to March 1, 1909.....	57,555.00
Library Fund (Matriculation Fees), transferred Jan. 31, 1908....	1,834.49
Balance in Library Fund, September, 1908.....	175.00
Library Fund (Matriculation Fees), November, 1908.....	1,580.00
Total Maintenance Resources .....	<u>\$130,449.49</u>

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### MAINTENANCE EXPENDITURES OF THE UNIVERSITY FOR TWO YEARS, FROM DECEMBER 1, 1906, TO DECEMBER 1, 1908

(As shown by State Auditor's books)

To December, 1907 .....	\$ 57,394.01
To December, 1908 .....	<u>64,470.84</u>
Total Maintenance Expenditures (to Dec. 1, 1908).....	\$121,864.85

#### Summary, December 1, 1908

Resources .....	\$130,449.49
Expenditures .....	<u>121,864.85</u>
Balance.....	\$8,584.64



# ANALYSIS OF EXPENDITURES FOR THE NINE MONTHS ENDING AUGUST 31, 1908

(From statements by Dr. O. J. Craig, dated November 30, 1908)

	From Dec. 1, 1907, to Feb. 29, '08	From Mar. 1, 1908, to Aug. 31, '08	Totals for nine months
Carried over from 1907-08.....		\$ 569.33	\$ 569.33
Advertising .....	\$ 188.70	329.10	517.80
Assistants .....	249.00	241.00	490.00
Departments, equipment and supplies .....	1,618.77	1,979.07	3,597.84
Employes .....	1,391.09	2,618.68	4,009.77
Expressage, drayage and freights .....	241.26	314.05	555.31
General .....	137.56	800.94	938.50
Gymnasium .....		117.96	117.96
Improvements .....	50.61	373.04	423.65
Insurance .....	930.00	125.00	1,055.00
Labor .....		524.05	524.05
Laboratory Assistants .....		327.50	327.50
Library .....	222.58	671.48	894.06
Office .....	224.26	492.01	716.27
Printing and stationery .....	188.80	1,958.83	2,147.63
Repairs .....	150.43	295.88	446.31
Salaries of Faculty .....	8,374.86	16,749.72	25,124.58
Student labor .....	39.10	77.15	116.25
Transportation .....	43.00	82.00	125.00
Traveling Expenses .....	365.75	427.79	793.54
Water, heat, light .....	2,677.75	947.78	3,625.53
Woman's Hall .....	8.10	9.30	17.40
Totals.....	\$17,101.62	\$30,031.66	\$47,133.28

# ANALYSIS OF EXPENDITURES FOR THE THREE MONTHS ENDING NOVEMBER 30, 1908

Advertising .....	\$ 488.94
Assistants .....	265.07
Departments, equipments and supplies.....	773.24
Employes .....	1,067.34
Expressage, drayage and freights .....	125.57
General .....	475.22
Improvements .....	5.70
Insurance .....	240.00
Labor .....	415.30
Library .....	475.53
Office .....	133.70
President's travel .....	100.00
Printing and stationery .....	262.25
Repairs .....	136.98
Salaries of the faculty .....	9,082.33
Student labor .....	39.65
Transportation .....	13.50
Traveling expenses .....	5.50
Water, light and heat .....	4,058.70
Total.....	\$18,164.52

The above analysis of expenditures is made in the form hitherto used. This has seemed wise because the present administration began its work in the middle of a financial year. Beginning in March next, some changes in method may be expected, tending to clearer definition of the purposes of expenditures and more logical classification of accounts.



## MISCELLANEOUS FUNDS

### ATHLETIC FEE FUND

Fees collected, since September 1, 1908 .....	\$248.00
Expended for supplies and equipment .....	76.38
Balance .....	<u>\$171.62</u>

### BREAKAGE DEPOSIT FUND

Balance in fund, August 15, 1908 .....	\$409.99
Deposits received .....	581.40
	<u>\$991.39</u>
Expended to November 24 .....	96.23
Balance.....	<u>\$895.16</u>

### WOMAN'S HALL FUND

Balance in fund, August 15, 1908 .....	\$3,064.48
Receipts .....	468.00
	<u>\$3,532.48</u>
Expended to November 24 .....	216.99
Balance .....	<u>\$3,315.49</u>

### BONNER SCHOLARSHIP FUND

Semi-annual payment from Mrs. E. L. Bonner .....	150.00
Paid to William Van Eman .....	<u>150.00</u>

## MEMORANDUM OF ESTIMATES FOR ANNUAL COST OF MAINTENANCE, 1909-1910 AND 1910-1911

### *I—Salaries of the Faculty—*

A. For staff as now organized .....	\$39,900.00
(An increase of \$4350—average 12.2 per cent)	
B. For three new appointees .....	5,500.00
(Forestry, Law, Physics)	
	\$45,400.00

### *II—Salaries of Employees—*

Office, Janitors, Engineers, Grounds, Student Assistants....	6,250.00
(Increase \$995—average 9 per cent)	

### *III—General Expenses—*

Laboratories, Libraries, Supplies, Printing and Stationery, Water, Light, Heat, Repairs, Improvements, Official Travel, Freight, Insurance, Contingencies .....	28,300.00
(Increase, \$9,300—two-thirds of which is for putting Lab- oratories and Libraries on a good working basis)	
Total, annually .....	\$79,950.00

## MEMORANDUM OF ESTIMATED SOURCES OF ANNUAL INCOME FOR MAINTENANCE 1909-1910 AND 1910-1911

I. From University Maintenance Income Fund, to be ex- pended by existing law, under direction of State Board of Education .....	\$10,200.00
II. From Matriculation Fees, to be deposited in Library Fund	1,800.00
III. From Legislative Appropriation, charge on the General Fund .....	67,950.00
Total, annually .....	\$79,950.00

## MEMORANDUM OF APPROPRIATIONS NEEDED FOR SPECIAL PURPOSES

I. Deficiency appropriation, authorized by State Board of Examiners, to February 28, 1909 .....	\$ 5,000.00
II. Furnishings for new Library building .....	7,500.00
III. Dormitory for men .....	25,000.00
IV. Equipment of Biological Station on Flathead Lake.....	12,000.00
V. President's house .....	12,500.00



# APPENDIX

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EXTRACTS FROM DEPARTMENT REPORTS

## DEPARTMENT OF LATIN AND GREEK.

WILLIAM M. ABER, A. B., PROFESSOR.

At present this department is providing for college work in Latin for three years, for two years of preparatory Latin and for two historical courses in Greek and Roman life, each during one semester. The work is done by one person with an assistant taking one preparatory class.

For the next two years it seems a reasonable and sufficient extension of the college work to provide for two more years, and the preparatory should be limited to the fourth year, to complete the Latin work of the three year high schools of the state.

This work can be done by one person with an assistant to take two classes.

At present no one is studying Greek because only two persons expressed a desire for it and their reasons for taking it did not seem so good and important as to justify forming a class for that number. Whenever even one person has had a decided and well grounded wish for Greek, the subject has always been given and will be in the future.

The following is a summary of class enrollment:

SEMESTER BEGINNING JANUARY 28, 1908.	SEMESTER BEGINNING SEPTEMBER 8, 1908
<b>Preparatory Classes:—</b>	<b>Preparatory Classes:—</b>
Second Preparatory Latin..... 3	Third Preparatory Latin..... 3
Third Preparatory Latin..... 6	Fourth Preparatory Latin..... 6
—	—
Total..... 9	Total..... 9
<b>College Classes:—</b>	<b>College Classes:—</b>
Latin II ..... 7	Latin I .....12
Latin IV .....10	Latin V ..... 8
Latin VI ..... 6	Greek Life ..... 8
Roman Life .....18	—
—	—
Total .....41	Total.....28



## DEPARTMENT OF MODERN LANGUAGES.

F. C. SCHEUCH, B. M. E., A. C., PROFESSOR.

The work that has been and is being given in this department comprises the following courses:

### GERMAN.

I. First Semester, 1908-09. Grammar (Becker's.) The work as planned will cover the entire grammar, to be followed by reading.

II. Second Semester, 1907-08. Becker's Grammar was completed and reviewed. Bernhart's Composition and Conversation was used, followed by reading.

III. First Semester, 1908-09. Wilhelm Tell was begun at the opening of the college year and completed Nov. 5th, when Schiller's Maria Stuart was begun. This will be followed by some modern reader, such as Karl Heinrich. Conversation is given.

IV. Second Semester, 1907-08. Readers used were, Maria Stuart, Die Jungfrau von Orleans, Max Mueller's Deutsche Liebe. Rapid reading at sight was required.

V. First Semester, 1908-09. Deutsche Liebe was begun at the opening of the present college year, completed Nov. 5th. Scheffel's Ekkehart is being read, to be followed by some more difficult sight reading and conversation.

VI. Second Semester, 1907-08. The work done was the same as outlined for Course V of the present year.

VII. First Semester, 1908-09. This course is purely elective, and has been made a conversational course. Later during the year, reading rapidly at sight will be required and commercial German will be made a feature of the work.

VIII. Second Semester, 1907-08. The reader used was Faust, Part I.

Preparatory German classes were organized at the beginning of the 1907-08 school year. The work was given by Miss Mary Stewart and Mr. Frederick Greenwood. This

work has been discontinued during 1908-09 on account of the non-existence of the Preparatory department. The work in the beginning classes in German, courses I and II, is being given by Mr. Frederick Greenwood.

#### FRENCH.

I. First Semester, 1908-09. Chardenal's Grammar is being used. Rollin's French reader will be begun about December 15th, to be followed by some other reader, such as L'Abbe Constantin.

II. Second Semester, 1907-08. Chardenal's Grammar was completed, Rollin's reader and L'Abbe Constantin also being studied.

III. First Semester, 1908-09. Colomba is being read, which will be completed about December 15th, to be followed by Les Trois Mousquetaires by Dumas.

IV. The work taken was that outlined for Course III of the present year.

V. First Semester, 1908-09. In this course, Les Misérables is being read, to be followed by Quatre-vingt-treize.

VI. Purely elective, and has consisted mostly of conversation and rapid reading.

#### SPANISH.

The demand for work in Spanish has not been large, but classes have been formed during the last three years for students who have elected the subject. Two years of work, or four courses, have been offered and given as follows:

I. Ford and Hills, Grammar, followed by simple readers such as Cuentos Faciles.

II. Continuation and review of Grammar and especially the subjunctives. As a reader, Cuentos Modernos, Baltasar.

III. and V. Cervantes, Don Quixote, and some of Galdo's novels are read.

Classes in Esperanto, meeting twice per week, were given during 1907-08, Zamenhoff's Grammar and Reader being used.



The following is a summary of the enrollment and classes:

SEMESTER BEGINNING JANUARY 28, 1908.		SEMESTER BEGINNING SEPTEMBER 8, 1908	
German II .....	26	German I .....	14
German IV .....	22	German III .....	18
German VI .....	17	German V .....	17
German VIII .....	2	German VII .....	3
French II .....	28	French I .....	19
French IV .....	12	French III .....	12
French VI .....	3	French V .....	6
Spanish II .....	3	Spanish I .....	3
Total.....	113	Total .....	92

## DEPARTMENT OF ENGLISH AND RHETORIC.

JAMES S. SNODDY, A. M., PROFESSOR.

MAUD McCORMICK, A. B., ASSISTANT.

The greater part of the work heretofore done in this department has been preparatory (high school) work. The change that was made at the beginning of the present semester by dropping the first and second years' preparatory classes from the courses of study, enables the department to give more attention to college work.

The "irregular class," which is taught by Miss McCormick, is made up of students who have not completed the work in English which is required in the fourth year of our high schools. This course will continue through the second semester of the present year; and will be open next semester to any other students who wish to prepare for entrance to Freshman English next fall.

The course, which previous to this year was known as "English I," was open to students who had completed only three years of preparatory or high school work. Course I, which is now given, requires four years of high school work for admission.

Courses V and VII are practically the same as they have been before this year. Course VII may be continued next semes-

ter as a seminar course, if sufficient reference books relating to the subject can be procured, and arrangements can be made for a seminar room in which the work can conveniently be done. Course XI, the first graduate course offered by the department, is given this semester.

The department is in need of more suitable conveniences for work in applied composition and rhetoric, so that students who write themes may have opportunities for personal conferences with their theme-readers or instructors, in order to have their individual criticism and assistance.

The following is a summary of enrollment:

SEMESTER BEGINNING JANUARY 28, 1908.	SEMESTER BEGINNING SEPTEMBER 8, 1908
<b>Preparatory:—</b>	Irregular Class (Special class for students who are pre- paring to enter Freshman English) .....
English Composition (1st Yr.) 8	9
English Composition (2d Yr.) 13	English I—Rhetoric .....
<b>College:—</b>	36
English IV .....	English V—Versification .....
12	15
English VI Prose .....	English VII—Old English.....
5	6
English VIII Middle English..	English XI—Ballads .....
4	1
English X Ballad .....	—
4	Total .....
Total.....	57
46	

## DEPARTMENT OF LITERATURE.

FRANCES CORBIN, B. L., PROFESSOR.

Considering the time and material at hand, the work of the department has been satisfactory during the past year. The aim has been to assist the student in his study of literature as an art, by direct contact with the works of the great authors. Much of this work is carried on in the library, and as our library has been crowded, we shall hope to do better work when we have access to the new building and to additional books.



The following is a summary of enrollment:

SEMESTER BEGINNING JANUARY 28, 1908.		SEMESTER BEGINNING SEPTEMBER 8, 1908	
College Classes:—		College Classes:—	
Literature II .....	15	Literature II .....	10
Literature IV .....	28	Literature VI .....	11
Literature VI .....	7	Literature VII .....	10
Literature VIII .....	13	Literature IX .....	17
Literature XI .....	19		
Preparatory Class:—		Preparatory Class:—	
Literature .....	21	Literature .....	9
Total.....	103	Total.....	57

## PUBLIC SPEAKING.

MARY STEWART, ACTING INSTRUCTOR.

There is one class, of fourteen members, in Public Speaking, meeting twice a week.

The students take an interest in the work, and are sincere in their efforts to make progress along these lines. In fact, the interest is sufficiently wide and earnest to indicate that a regular instructor in this work would be advisable.

There has also been organized a dramatic club, of voluntary membership, that somewhat augments and supplements the interest in this work.

## DEPARTMENT OF HISTORY AND ECONOMICS.

J. H. UNDERWOOD, M. A., PH. D., PROFESSOR.

The Professor of History and Economics has since the last annual report published in New York and London a monograph on the Distribution of Ownership, and an address on Inheritance Taxation in the Proceedings of the National Conference on State and Local Taxation at Columbus, Ohio. He has made a

similar address, at the Second Conference at Toronto, Canada, as Commissioner from Montana. He is engaged upon a monograph on Homestead Exemption Laws under auspices of the Carnegie Institution for the Advancement of Science and in collaboration with the Department of Economics in Yale University.

A Seminar of advanced students in Economics is engaged upon the subject of the Conservation of Natural Resources, particularly in Montana.

The following is a summary of enrollment:

SEMESTER BEGINNING JANUARY 28, 1908.	SEMESTER BEGINNING SEPTEMBER 8, 1908.
<b>Preparatory History:—</b> Ancient History .....14 Modern History .....13  <b>Collegiate History:—</b> II European History.....36 V American History ..... 7 IV English History ..... 1  <b>Economics:—</b> II Currency and Banking.....11  <b>Totals for semester:—</b> Preparatory .....27 Collegiate .....55  Total.....82	<b>History:—</b> I European History .....33 VII American Government... 8 Renaissance History ..... 2  <b>Economics:—</b> I Economics—Introductory....41 X Economic Problems ..... 7 Statistics ..... 1 Economic Geography ..... 1  Total.....93

## DEPARTMENT OF PHILOSOPHY AND EDUCATION.

W. F. BOOK, PH. D., PROFESSOR.

The department of Philosophy and Education is, at present, providing a year's work in Philosophy, embracing a standard introductory course and a general course in the History of Philosophy, Ancient and Modern; a two hours' course in Ethics and Logic, one semester each; and about two years' work, each, in Psychology and Education, as follows: A three hours' course in Elementary Psychology throughout one year, followed by a more advanced course in general Psychology and in Genetic Psychology, one semester each; a three hours' course in the His-



tory of Education throughout the year, supplemented by a course in the Study of Children; courses in Educational Classics, in Principles of Teaching, in Educational Psychology, and in High School Pedagogy, one semester each.

By giving certain courses on alternate years it has been possible to meet most of the demands made upon the department thus far, but the department is growing rapidly and some definite changes and improvements should be made. Since my last annual report the enrollment has increased twenty per cent. During the last three years 95 per cent of the Seniors (excluding engineers) have done from 25 to 87 per cent of their work in this department. Most of these young people desire to prepare to teach as well as complete a University course. The fact that the present High School teachers of the state are practically all imported from other states when so many of our own young people desire to take up this work should arouse the state to properly meet their needs.

In my last annual report I pointed out that the time was ripe for an enlarged development of University departments of education, which should provide not only educational and professional training for prospective teachers, but also scientific investigation of educational problems. I asked that the University of Montana be made one of the pioneers in this important work, and I wish to again urge this point.

Since coming to the University of Montana three years ago, the head of the department has spent his vacations in the Psychological laboratory of Clark University investigating one aspect of the psychology of learning, a field of investigation vital for all educational work. The results of this study have been written up for publication and will appear as the first volume of the University of Montana Studies in Psychology. The practical implications of the facts revealed by the investigation have been written up for publication in the Pedagogical Seminary, a journal devoted exclusively to the scientific study of educational problems.

The following tables show the courses, with the enrollment of students in each class, offered during the year:

**SEMESTER BEGINNING  
JANUARY 28, 1908.**

Elementary Psychology .....	21
History of Modern Philosophy..	7
Ethics .....	22
Principles of Teaching.....	6
High School Pedagogy .....	11
Child Study .....	2
	—
Total .....	69

**SEMESTER BEGINNING  
SEPTEMBER 8, 1908**

Elementary Psychology .....	30
Logic .....	11
History of Education .....	12
Educational Classics .....	7
Advanced Psychology .....	5
	—
Total.....	65

**DEPARTMENT OF ART.**

ELOISE KNOWLES, PH. B., INSTRUCTOR.

This department is attempting to give instruction in art on a broad educational basis. It endeavors to have the work that is done thorough and progressive. Of course a more extended equipment would give greater results.

The University authorities should consider seriously a fully-equipped fine arts department, for Montana's young men and women are far from art schools and art centers. Art work will soon find a firm place in all colleges, as it has already in many. Montana should be in the vanguard of such a movement.

The instructor is chairman of the art committee of the Montana State Federation of Woman's Clubs, and is a member of the art committee of the National Federation.

The following is a statement of the classes and enrollment of the past year:

**SEMESTER BEGINNING  
JANUARY 28, 1908.**

Beginning Preparatory Drawing .....	6
Second Preparatory Drawing.....	11
Third Preparatory Drawing.....	12
Black and White Work I.....	5
Black and White Work II.....	6
Water Color Painting V.....	2
Water Color Painting VII.....	7
Oil Painting IX .....	2
Design XIII .....	1
Teacher's Drawing XV .....	1
History of Architecture.....	9
History of Sculpture .....	10
	—
Total.....	72

**SEMESTER BEGINNING  
SEPTEMBER 8, 1908**

Third Preparatory Drawing.....	7
Black and White Work .....	4
Water Color Painting VI.....	3
Design XIII .....	7
Teacher's Drawing XV.....	1
History of Painting .....	5
History of Sculpture .....	6
	—
Total.....	33



## DEPARTMENT OF MUSIC.

BLANCHE WHITAKER, INSTRUCTOR.

The work of this department has been on the whole quite satisfactory. The orchestra has furnished music for the majority of University functions, and has practiced faithfully and well. The various musicales were well carried out and attracted good audiences. Mr. Edward Baxter Perry and Karl Reidelberger have given recitals under the auspices of the department and they were much appreciated. The piano school had one graduate, Miss Clarissa Spencer.

### ENROLLMENT IN MUSIC.

I. Students registered in the University .....	15
II. Special pupils .....	22

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## DEPARTMENT OF MATHEMATICS.

L. C. PLANT, M. S., PROFESSOR.

CYNTHIA E. REILEY, B. S., ASSISTANT PROFESSOR.

Since the last report of the department some important changes have been made. During the past few years mathematicians have been making a decided effort to improve Mathematics, both as to methods of teaching and the subject matter taught. The department is endeavoring to stand for progress along these lines. As a step in this direction the department no longer offers, as distinct courses, Trigonometry, Advanced Algebra, Analytic Geometry, Differential and Integral Calculus, but presents the subject matter as a continuous course under the heading of Mathematics I, II, III, IV. By such a presentation time is saved, but the chief advantage in this arrangement is that the student gets a grasp of Mathematics which can not be obtained by the old method.

A number of new courses have been added by the department in order that students wishing to specialize in Mathematics may have a broader range of subjects from which to choose.

The Department wishes to call special attention to a Teachers' Course, which is offered and to the prerequisite of the same. The prerequisite has been made such that only those students who are well prepared in Mathematics will represent the University as teachers of the subject in the high schools.

The enrollment of students in the courses during the past year was as follows:

SEMESTER BEGINNING JANUARY 28, 1908.		SEMESTER BEGINNING SEPTEMBER 8, 1908	
Algebra, First Preparatory.....	8	Solid Geometry, Third Pre-	
Plane Geometry, Second Pre-		paratory .....	22
paratory .....	22	Mathematics I .....	54
Algebra, Third Preparatory.....	12	Mathematics II .....	26
Higher Algebra .....	43	Mathematics IV .....	4
Calculus .....	10	Analytic Mechanics .....	4
Mechanics .....	6	Least Squares and Precision	
Differential Equations .....	8	of Measurements .....	3
Strength of Materials .....	6		
Total.....	115	Total.....	113

## DEPARTMENT OF PHYSICS AND GEOLOGY.

J. P. ROWE, PH. D., PROFESSOR.

GILBERT McLAREN, ASSISTANT IN GEOLOGY AND MINERALOGY.

HOMER DEUEL, ASSISTANT IN COLLEGE PHYSICS.

DANIEL CONNER, ASSISTANT IN PREPARATORY PHYSICS.

The work of this department, along the several lines coming under the head of Physics and Geology, has been vigorously pursued during the past year. The work of the students, as a whole, has been of a higher character than heretofore. The lack of necessary assistance has prevented any great change in the work, but in general satisfactory results have been obtained.

During the past summer, the head of the department has done considerable field work in Economic Geology, aided by a donation of \$200 from Mr. W. A. Clark and by transportation courtesies from the railroads within the state, and during the past year has written and had published the following articles and bulletins on the Economic Geology of Montana:



1. The Coal Industry of Montana,—  
Engineering and Mining Journal, May 23, 1908.
2. The Montana Gypsum Industry,—  
Engineering and Mining Journal.
3. The Coeur d'Alene Mining District,—  
Mines and Minerals.
4. Non-Metallic Economic Geology of Montana,—  
The Mining World.
5. Some Economic Geology of Montana,—  
University Bulletin No. 50, Geological Series No. 3.
6. The Coeur d'Alene Mining District, Idaho.  
Serial No. 1, published November 14, 1908.  
Serial No. 2, published November 21, 1908.  
Serial No. 3, published November 28, 1908.
7. The Clay Industry of Missoula County,—  
Brick, Chicago, Ill.

Many new pieces of apparatus for the department of Physics and several charts and maps for the department of Geology have been purchased since the last report was made.

The following are the classes organized by the department during the past year and the number enrolled in each class:

SEMESTER BEGINNING JANUARY 28, 1908.	SEMESTER BEGINNING SEPTEMBER 8, 1908
Third Preparatory Physics.....27	Third Preparatory Physics..... 9
College Physics II .....11	College Physics I .....20
Geology II ..... 3	Geology I ..... 3
Mineralogy IV (Blow Pipe Analysis) ..... 7	Mineralogy III ..... 5
Mineralogy I ..... 5	Theory of Ore Deposits ..... 3
Economic Geology ..... 6	—
Total.....59	Total.....40

## DEPARTMENT OF BIOLOGY.

M. J. ELROD, PH. D., PROFESSOR.

The work of students for the past year has been of the same general character as heretofore, although the introduction of a four years' preparatory standard for admission gave to this department, as to others, a beginning class with a year of added preparation, and therefore with greater maturity and ability.

Mrs. Harriet Lehman Kutchin assisted in the laboratory

work during the year 1907-08. Her work was of a high order and was most acceptable. It is much to be regretted that the completion of some of her own advanced studies prevented her from giving service this year.

Obviously it is impossible for one man to do adequately the various lines of work that come under the head of Biology. A full year has been given to general Biology after the plan announced in the annual register. This is followed by a year in Botany or a year in Zoology, or by Bacteriology or Human Anatomy. Advanced work is offered in either Zoology or Botany, within certain limits. During the past year no classes have been organized in Bacteriology or Human Anatomy. As in past reports the suggestion is made that if it be at all feasible the department should be strengthened by the addition of a man with forestry training, to take the botanical side and build up a department of forestry.

During the past year much work outside of departmental work has been attended to. The summer was spent at Flathead Lake, a report of which will be found elsewhere. The Bulletin on Pictured Rocks was issued, and commanded considerable attention. The head of the department, as Secretary of the Montana Horticultural Society, printed the proceedings of the society, covering over a hundred pages, with many illustrations. Two weeks of service was given to the work of Farmers' Institutes in December. He assisted the Missoula Chamber of Commerce in preparing an advertising pamphlet for the Chamber, and made a report to the American Bison Society relative to a tract of land for a proposed reserve, which has become an accomplished fact through an act of Congress.

The following is a summary of class enrollment:

SEMESTER BEGINNING JANUARY 28, 1908.	SEMESTER BEGINNING SEPTEMBER 8, 1908.
General Biology .....41	General Biology .....43
Botany ..... 8	Botany ..... 2
Zoology ..... 2	Zoology ..... 5
Photography ..... 6	Forestry ..... 3
Preparatory Biology ..... 5	
—	
Total.....72	Total.....53



## THE BIOLOGICAL STATION.

M. J. ELROD, PH. D., DIRECTOR.

The session during the past summer was productive of good results. Headquarters were made at the laboratory at Bigfork, from which expeditions were made in various directions for material. Trips for collections were made to MacDougal Peak, Swan Range, to the dense forests about Echo Lake, to Swan Lake, to Yellow Bay, Bull Island, Wild Horse Island, and Dayton on Flathead Lake, to MacDonald Peak in the Mission Mountains, and to the Hot Springs on the Reservation. The result was a wealth of material which becomes the property of the University and is deposited in the museum.

The botanical work was in charge of Marcus E. Jones, of Salt Lake City. He gathered a large collection, and took the material to Salt Lake City for study and comparison with his own specimens. He has also been loaned a large amount of material from the museum. The intention is to prepare a bulletin or monograph of the flora of the region, with keys, for student use. The bulletin is well under way, and will be ready for publication in a short time. Mr. Jones deserves great credit for his services, for which he received no compensation. Likewise, the labor of preparing the bulletin, which is arduous and tedious, is gratuitous, a labor of love, for which he receives no monetary reward. During the summer a number of new species were found which will be described in the bulletin. The number of species collected is between 1,000 and 1,500, and a full set will be placed in the University collections.

Three weeks were spent at the different sites belonging to the University, at points on Flathead Lake. From these as bases the lake bottom was studied, soundings taken, and material from depths down to 150 feet gathered by means of the net and dredge. The three sites were carefully studied with a view to future use, and with the idea of determining the best place for a permanent station where buildings may be erected.

Plankton collections were for the first time made from Sylvan Lake on the eastern slope of MacDougal in the Swan Range, and from Skaag's Lake, Red Lake and Black Lake near Dayton,

at the western arm of Flathead Lake. The observations made were interesting and instructive.

A full report of the season's work, covering more than 10,000 words, was prepared for the press, and was given wide circulation.

The expeditions were made more numerous, and the collections more extensive than would otherwise have resulted, by the contribution which former Senator W. A. Clark has made annually to the station for many years past.

The work of the station continues annually for from five to ten weeks. While the time is not great, much material and many observations have resulted, a part of which has already been worked up, and much yet awaits study.

During the season, no little time is given to the students attending the station for purposes of study, and the work of such persons is carefully directed and assistance rendered in every possible way. Eight persons took part in the station work the past season, while many others were present for a short time or as visitors.

The collection of useful negatives illustrative of scientific study in different lines was augmented by about one hundred of size  $6\frac{1}{2} \times 8\frac{1}{2}$  inches, and many films.

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## DEPARTMENT OF CHEMISTRY.

WILLIAM D. HARKINS, PH. D., PROFESSOR.

WALTER ARTHUR, A. B., B. S., ASSISTANT.

The aims of this department are: First, to give to the students of the University instruction of a strictly scientific nature; second, to fit young men and women to do practical chemical work, either as teachers or as chemists; and third, the accomplishment each year of at least a small amount of research work of a genuinely scientific character.

Development has been made in the line of the second aim by the establishment of a course in Chemical Engineering designed for students who wish to become chemists in manufacturing establishments, smelters and mines. It is advisable, so far as is possible, to equip the laboratory with the same general forms



of apparatus as are used in the better technical laboratories, since, unless this is done, it is impossible to teach the student to do the rapid work essential in all commercial establishments.

Three scientific papers have been published in the Journal of the American Chemical Society by the faculty of the department during the past year. A fourth paper on "The Relation Between Excess Potential, and the Reducing Action of the Hydrogen Evolved from the Surface of a Metal," is almost ready for publication.

The greatest needs of the department are more space, and more apparatus for elementary general chemistry, physical and electro-chemistry, and analytical chemistry. It would be advisable, also, to provide space and apparatus, so that the ordinary analyses of water, foods, and rocks may be made in the laboratory.

Water analyses cannot now be made in the laboratories, since a separate room, free from fumes, is necessary. Thus the University is prevented from doing any work upon the purity of Montana water supplies. This subject is of such great importance to the people of the state that a laboratory of this kind should be provided and equipped with apparatus. Subjects to be investigated would be the purity of Montana waters from a sanitary standpoint, alkali in irrigation water, mineral springs and lakes, water supply, and water power.

At the beginning of the current college year Mr. Walter Arthur, a graduate of the University of Missouri, and last year teaching assistant in chemistry in the University of Michigan, was appointed as Assistant in Chemistry. He has proved to be an efficient instructor.

The following is a summary of the enrollment:

SEMESTER BEGINNING JANUARY 28, 1909	SEMESTER BEGINNING SEPTEMBER 8, 1908
General Chemistry .....32	General Chemistry .....42
Quantitative Analysis ..... 4	Qualitative Analysis ..... 9
Chemistry of Photography..... 4	Electro-Chemistry and Elec- trical Measurements .....11
Assaying ..... 5	Quantitative Analysis ..... 3
Organic Chemistry ..... 2	Physical Chemistry ..... 3
Physical Chemistry ..... 2	Advanced Physical Chemistry.. 1
Metallurgy ..... 4	Chemical German ..... 1
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Total.....53	Total.....70

## SCHOOL OF ENGINEERING.

NATHANIEL R. CRAIGHILL, S. B., DEAN.

ALLSTON DANA, S. B., ASSISTANT.

DONALD B. MCGREGOR, ASSISTANT IN SHOPS.

The work of the School of Engineering has been thoroughly revised during the past year, and new courses added wherever necessary.

A higher standard of scholarship has been maintained than ever before, and at the same time much more ground has been covered by the classes, almost without exception. During the past year the equipment has been materially increased, both by purchase of machines, apparatus and instruments, and also by gift of the Alumni, the last being the finest engineer's transit made by the L. E. Gurley Company. In general, the School is in better condition than ever before, and the outlook is decidedly hopeful; its graduates are almost without exception filling positions of trust, and judging from the marked increase in engineering projects in the state, there will be places open for many more men each year than graduates to take them.

The names of those who graduated in June, together with the titles of their theses are as follows:

Charles A. Buck, Design of a Hydro-Electric Power Plant for Stevensville, Montana.

Vincent S. Craig, Design of a Bridge to Span the Missoula River.

Arthur G. Davidson, A Study of the Cost of Light, Heat and Power at the University of Montana.

Herman C. McGregor, Design of an Electric Power Plant for a Typical Town of 10,000 Inhabitants.

Edward A. Wenger, Construction of a Synchronizer.

The following is a list of the classes taught in the School during the year with the number of students in each:



**SEMESTER BEGINNING  
JANUARY 28, 1908.**

Preparatory Drawing .....	18
First Year Drawing .....	23
Shopwork .....	16
Graphic Statics .....	6
Surveying .....	14
Field Work and Topography.....	14
Descriptive Geometry .....	14
Electrical Measuring Instru- ments and Theoretical Elec- tricity .....	4
Mechanism and Gear Teeth.....	4
Hydraulics and Hydraulic Motors .....	5
Steam Engineering .....	5
Theoretical Electricity .....	5
Electrical Machine Design.....	5
Engineering Laboratory .....	5
Special Drawing .....	4

Total .....142

**SEMESTER BEGINNING  
SEPTEMBER 8, 1908**

Mechanical Drawing (1st Yr.)..	12
Shopwork .....	6
Surveying .....	22
Descriptive Geometry .....	17
Graphic Statics .....	6
Mechanism and Gear Teeth.....	7
Engineering Drawing (3rd Year) .....	6
Hydraulics .....	4
Thermodynamics .....	4
Machine Design .....	4
Theoretical Electricity .....	4
Heating and Ventilation.....	4
Engineering Laboratory .....	4

Total.....100

## LIBRARY.

GERTRUDE BUCKHOUSE, B. S., LIBRARIAN.

The Library has maintained its usual growth. At the beginning of the present session of the University the number of hours during which the Library is open was increased. This increase is appreciated by the students and has proved an aid in administering the Library.

A large amount of bound and unbound material, the accumulation of several years, is being worked over and segregated by subject. All this material will be available for use when properly shelved.

The nucleus of a special library of Montana history has been collected, for the greater part through the generosity of authors and friends of the University. A persistent effort will be made to complete this collection. To aid in this work some specific amount should be appropriated.

The Library is deficient in material for the general courses and furnishes almost no facilities for research work. As files

of unbound periodicals are greatly damaged by constant use the files of our general and important technical periodicals should be completed and bound.

Many newspapers of the state have generously directed that two copies of each issue be sent to the Library, one for binding and the other for use in the reading room.

#### STATISTICS FOR 1907-08.

Number of volumes bought .....	667
Number of volumes given .....	158
Total number of volumes accessioned .....	825
Number of pamphlets accessioned .....	44
Number of volumes bound .....	5
Number of volumes lost .....	15
Current periodicals:—	
Subscription .....	115
Gifts of Montana periodicals .....	38
Other gifts .....	6

#### EXCHANGES.

Though no special effort has been made to increase our exchange list, a number of institutions and learned societies have been added this year.

Number of volumes received .....	8
Number of pamphlets received .....	235

#### ENROLLMENT.

##### Semester Beginning January 28, 1908.

Library Science .....	14
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##### Semester Beginning September 8, 1908.

Library Science .....	20
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### DEPARTMENT OF PHYSICAL CULTURE.

JAMES W. RHODES, DIRECTOR.

MAUD MCCORMICK, A. B., ASSISTANT.

During the past three months of my incumbency, an earnest endeavor has been made to establish and equip a department of Physical Culture.

The students have been given their physical examinations;



regular class work has been organized, and a graded course of instruction planned.

The needs of the department are many. First, the proper equipment of the gymnasium with apparatus, in order that the graded course of work arranged may be carried out, and that students who are unable to take the regular work may have exercises prescribed, adapted to their individual needs. Such students must have their work postponed until this apparatus is installed.

Secondly, medical and anthropometric instruments are essential, in order that the physical examination may be made more thorough.

Thirdly, an annex is needed adjoining the gymnasium, with its proper equipment of lockers and showers, and arranged suitably for the men who are participating in out-of-door athletics. The gymnasium should be generally overhauled, and the arrangement of showers, lockers, etc., altered to better the sanitary conditions.

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## REPORT OF THE DEAN OF WOMEN.

MARY STEWART, A. B., DEAN.

### I. ENROLLMENT OF WOMEN.

For Second Semester of 1907-08 .....	123
For First Semester of 1908-09 .....	100

### II. HOMES.

Forty-six of the young women live in the Woman's Hall; the rest of the women students live in their own homes in the city, or with relatives and friends.

### III. SELF-SUPPORT.

Five young women are supporting themselves, entirely or in part. Two of them assist in work about the Hall, two in the Library, and one in the Office. There is more work of this sort available than there are girls seeking it.

#### IV. ORGANIZATIONS.

The Young Women's Christian Association has a membership of 44. Three delegates were sent to the State Convention at Dillon. A brief visit from Miss Conde, a National Secretary, has been enjoyed.

The organization is in a healthy and flourishing condition and is doing a helpful work.

The Clarkia Literary Society shows a marked increase in interest and effectiveness. Its members number 37.

There are two local sororities applying for national charters, the Delta Sigma and the Theta Phi. The former occupies the suite on the third floor, the latter the one on the second floor of the Woman's Hall. These suites have been fitted up in an attractive manner, and they form the center of the social life of their respective organizations. The membership of the Delta Sigma numbers 21; of the Theta Phi, 13.

Penetralia, an honor society made up of young women, whose interests are impersonal, general, and non-social, is very helpful in promoting the welfare of the women of the University.

#### V. WOMAN'S HALL.

The Hall is, in the main, in a good condition. Mrs. Morris has taken Mrs. Cromberg's place as matron and housekeeper, and is successfully continuing the conscientious work of her predecessor.

A greater degree of liberty of conduct is accorded the residents of the Hall than ever before. They are, on an average, older, owing to the elimination of the Preparatory School, and more capable and responsible. Their attitude is characterized by good sense, a ready responsiveness, and a high sense of honor.